

Amendments to the Claims

1    1. (currently amended): A particulate compound for modifying a characteristic of a  
2    fluid, comprising:  
3        a core comprising the compound selected from the group consisting of:  
4                polymers formed within a shell;  
5                monomers which are polymerized within the shell, where the shell is  
6                inert to monomer polymerization; and  
7        the shell encapsulating the core,  
8    where the encapsulated compound is cryogenically ground to form the particulate  
9    compound where the shell acts as an anti-agglomeration agent.

2. (original): The particulate compound of claim 1 where the compound is a drag reducing agent that modifies the flow resistance of the fluid.

3. (original): The particulate compound of claim 1 where the greatest outside dimension thereof is about 1000 microns or less.

4. (original): The particulate compound of claim 1 where the encapsulated compound is ground by a method selected from the group consisting of cryogenic grinding, pressure grinding, and combinations thereof.

5. (canceled)

6. (original): The particulate compound of claim 1 where the polymers formed within the shell are formed from alpha-olefins and the monomers are alpha-olefins.

7. (original): The particulate compound of claim 1 where the shell is selected from the group of materials consisting of polybutylene, polymethacrylates, waxes, polyethylene glycol (PEG), polypropylene glycol (PPG), alkoxyl terminated PEG,

polyethylene oxide (PEO), polypropylene oxide (PPO), stearic acid, polyethylene waxes, and mixtures thereof.

8-16. (canceled)

- 1 17. (previously presented): An encapsulated compound for modifying a  
2 characteristic of a fluid, comprising:  
3 a core comprising the compound selected from the group consisting of:  
4 polymers formed within the shell;  
5 monomers which are polymerized within the shell, where the shell is  
6 inert to monomer polymerization; and  
7 a shell encapsulating the core, where the shell contains polyethylene oxide  
8 of a molecular weight of about 100,000 weight average where the  
9 polyethylene oxide forms a skin over the outer surface thereof.

18. (original): The encapsulated compound of claim 17 where the compound is a drag reducing agent that modifies the flow resistance of the fluid.

19. (original): The encapsulated compound of claim 17 where the polymers formed within the shell are formed from alpha-olefins and the monomers are alpha-olefins.

20. (previously presented): The encapsulated compound of claim 17 where the polyethylene oxide forms a skin over the outer surface of the shell in combination with a material selected from the group consisting of polyethylene glycols, alkoxypolyethylene glycols, and mixtures thereof.

21-28. (canceled)

- 1 29. (previously presented): An encapsulated compound for modifying a  
2 characteristic of a fluid, comprising:  
3 a core comprising the compound selected from the group consisting of:

4                    polymers formed within a shell;  
 5                    monomers that are polymerized within the shell, where the shell is  
 6                    inert to monomer polymerization;  
 7                    in the absence of a carrier, where the polymerization of the monomers to  
 8                    form the polymers is accomplished by a main catalyst, which cannot  
 9                    catalyze the polymerization of the monomers until a co-catalyst is added  
 10                   thereto;  
 11                   a co-catalyst in the core; and  
 12                   the shell encapsulating the core.

30. (original): The encapsulated compound of claim 29 where the main catalyst is selected from the group consisting of aluminum activated titanium trichloride, titanium tetrachloride, and mixtures thereof and the co-catalyst is selected from the group consisting of diethylaluminum chloride, diethylaluminum bromide, diethylaluminum iodide, dipropylaluminum chloride, dibutylaluminum chloride, ethylpropyl aluminum chloride, ethylene dichloride, diethylaluminum ethoxide, dimethylaluminum ethoxide, diethylaluminum propoxide, ethylmethylaluminum ethoxide, isobutyl aluminoxane and mixtures thereof.

31. (original): The encapsulated compound of claim 29 where the compound is a drag reducing agent that modifies the flow resistance of the fluid.

32. (original): The encapsulated compound of claim 29 where the polymers formed within the shell are formed from alpha-olefins and the monomers are alpha-olefins.

1    33. (original): A method for making a particulate compound for modifying a  
 2    characteristic of a fluid, comprising:  
 3                    encapsulating a core with a shell where the core comprises a compound  
 4                    made by a process selected from the group consisting of:  
 5                    forming polymers within the shell;

- 6                    polymerizing monomers within the shell, where the shell is inert to  
7                    monomer polymerization; and  
8                    grinding the encapsulated compound to form the particulate compound.

34. (original): The method of claim 33 where in encapsulating the core the compound is a drag reducing agent that modifies the flow resistance of the fluid.

35. (original): The method of claim 33 where in grinding the encapsulated compound the greatest outside dimension of the particulate compound thereof is about 1000 microns or less.

36. (original): The method of claim 33 where the grinding is conducted by a process selected from the group consisting of cryogenic grinding, pressure grinding, and combinations thereof.

37. (original): The method of claim 33 further comprising coating the particulate compound with an anti-agglomeration agent during and/or after grinding the encapsulated compound.

38. (original): The method of claim 33 where forming polymers within the shell and polymerizing monomers comprises polymerizing alpha-olefins.

39. (original): The method compound of claim 33 where in encapsulating a core with a shell, the shell is selected from the group of materials consisting of polybutylene, polymethacrylates, waxes, polyethylene glycol (PEG), polypropylene glycol (PPG), alkoxyl terminated PEG, polyethylene oxide (PEO), polypropylene oxide (PPO), stearic acid, polyethylene waxes, and mixtures thereof.

40-44. (canceled)

1 45. (original): A method of making an encapsulated drag reducing agent (EDRA)  
2 for reducing drag in a liquid stream comprising:  
3 providing a core reaction material comprising a monomer and a pre-polym-  
4 erized catalyst;  
5 encapsulating the core reaction material in a shell, where the shell is inert to  
6 the monomer polymerization; and  
7 polymerizing the monomer within the shell.

46. (original): The method of claim 45 where in providing the core reaction material, the monomer is an alpha-olefin.

47. (original): The method of claim 45 where in providing the core reaction material, the core reaction material has an absence of solvent for the monomer.

48. (original): The method of claim 45 where in providing the core reaction material, the monomer is an alpha-olefin, and the catalyst is a Ziegler-Natta catalyst.

1 49. (original): A method for making an encapsulated compound for modifying a  
2 characteristic of a fluid, comprising:  
3 providing a core comprising the compound selected from the group consist-  
4 ing of:  
5 forming polymers within the shell;  
6 polymerizing monomers which are within the shell,  
7 where the shell is inert to monomer polymerization; and  
8 encapsulating the core with a shell, where the shell contains polyethylene  
9 oxide of a molecular weight equal to or greater than 100,000 molecu-  
10 lar weight where the polyethylene oxide forms a skin over the outer  
11 surface thereof.

50. (previously presented): The method of claim 49 where in providing a core, the compound is a drag reducing agent that modifies the flow resistance of the fluid.

51. (original): The method of claim 49 where in providing a core, forming the polymers within the shell and polymerizing the monomers comprise polymerizing alpha-olefins.

52. (previously presented): The method of claim 49 where in encapsulating the core, the skin forms over the outer surface of the shell in combination with a material selected from the group consisting of polyethylene glycols, alkoxypolyethylene glycols, and mixtures thereof.

1 53. (original): A method of making encapsulated compounds for modifying a  
2 characteristic of a fluid, comprising:  
3       providing a core comprising the compound made by a process selected from  
4       the group consisting of:  
5       forming polymers within the shell;  
6 polymerizing monomers within the shell,  
7       where the shell is inert to monomer polymerization; and  
8       encapsulating the core with a shell, including removing at least a portion of  
9       water from the shell by a method selected from the group consisting of  
10       vacuum stripping, molecular sieves, and combinations thereof.

54. (original): The method of claim 53 where in providing the core the compound is a drag reducing agent that modifies the flow resistance of the fluid.

55. (original): The method of claim 53 where in forming polymers within the shell comprise forming polymers from alpha-olefins and polymerizing monomers comprises alpha-olefins.

56. (original): The method of claim 53 where in encapsulating the core with a shell, the shell is selected from the group of materials consisting of polybutylene, polymethacrylates, polyethylene glycol (PEG), polypropylene glycol (PPG), alkoxy terminated PEG, polyethylene oxide (PEO), polypropylene oxide (PPO), stearic acid, paraffin waxes, polyethylene waxes, and mixtures thereof.

57-60. (canceled)

1 61. (original): A method of making an encapsulated compound for modifying a  
 2 characteristic of a fluid, comprising:  
 3 providing a core comprising the compound made by a method selected from  
 4 the group consisting of:  
 5 forming polymers within a shell;  
 6 polymerizing monomers within the shell,  
 7 where the shell is inert to monomer polymerization and where the polym-  
 8 erization of the monomers to form the polymers is accomplished by a  
 9 main catalyst which cannot catalyze the polymerization of the monomers  
 10 until a co-catalyst is added thereto;  
 11 adding a co-catalyst to the monomers; and  
 12 encapsulating the core with the shell.

62. (original): The method of claim 61 where in providing the core the main catalyst is selected from the group consisting of aluminum activated titanium trichloride, titanium tetrachloride, and mixtures thereof and the co-catalyst is selected from the group consisting of diethylaluminum chloride, diethylaluminum bromide, diethylaluminum iodide, dipropylaluminum chloride, dibutylaluminum chloride, ethylpropyl aluminum chloride, ethylene dichloride, diethylaluminum ethoxide, dimethylaluminum ethoxide, diethylaluminum propoxide, ethylmethylaluminum ethoxide, isobutyl aluminoxane and mixtures thereof.

63. (original): The method of claim 61 where in providing the core the compound is a drag reducing agent that modifies the flow resistance of the fluid.

64. (original): The method of claim 61 where in providing the core, forming the polymers within the shell comprises forming polymers from alpha-olefins and polymerizing monomers comprises polymerizing alpha-olefins.

65-66. (canceled)